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| 09/939,286 | 08/20/2001 | Stanislaw D. Augustynowicz | KSC-12092 | 8057 |

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EXAMINER

CHEVALIER, ALICIA ANN

ART UNIT

PAPER NUMBER

1772

DATE MAILED: 07/02/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/939,286

Applicant(s)

AUGUSTYNOWICZ ET AL.

Examiner

Alicia Chevalier

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 April 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4 and 8-37 is/are pending in the application.
- 4a) Of the above claim(s) 17-35 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4, 8-16, 36 and 37 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

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DETAILED ACTION

Election/Restrictions

1. Applicant's election without traverse of Group I, claims 1-4, 8-16, 36 and 37, in Paper No. 5 is acknowledged.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-4, 8-11 and 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bell (5,271,980) in view of Barito et al. (4,636,415).

Bell discloses a flexible evacuated insulating panel to provide an improved evacuated insulating panel that is highly flexible and can be bent into sharp curves after fabrication without failure (col. 4, lines 1-25), which reads on applicant's limitation "is conformable to three-dimensional surfaces of an object to be insulated." The insulating panel comprising a first resilient sheet (outer casing), a first flexible impermeable layer (reflection layer), an evacuated high porosity layer (fill layer/part of spacer layer), a second flexible impermeable layer (carrier layer/part of spacer layer), and a second resilient sheet (outer casing) (figure 6 and col. 11, line 60 to col. 12, line 5).

The impermeable layers are typically constructed from materials such as aluminum, copper, or stainless steel, or their alloys with other metals (col. 8, lines 14-20) and have a thickness typically of 0.05 to 0.2 mm (0.002-0.008 inches) (col. 7, lines 57-60). The evacuated high porosity layer typically has a thickness of 5 to 20 mm (0.19-0.78 inches) (col. 12, lines 17-24). Therefore, the thickness of the spacer layer (the evacuated high porosity layer (fill layer) and the second flexible impermeable layer (carrier layer/part of spacer layer)) is 0.192 to 0.788 inches. The material for the high porosity layer is selected for its ability to support compressive loads of ambient pressure, while allowing shear displacement at relatively low applied loads, and having the lowest possible coefficient of thermal conductivity (col. 12, lines 50-54). A typical material for the high porosity layer is particulate (powder) silica aerogel (col. 12, lines 55 to col. 13, line 12).

Bell further discloses sealing material (edge strip) adjacent the evacuated high porosity layer (fill layer) and interposed between the second flexible impermeable layer (carrier layer) and the first flexible impermeable layer (reflection layer) (figure 6 and col. 11, line 60 to col. 12, line 5).

Bell discloses all the limitations of the instant claimed invention except for the powder having a compressed density of approximately 1 to 10 times a bulk density of the powder, the surface area of the powder, the bulk density of the powder, and the thermal conductivity coefficient k .

Barito discloses using powdered silica in the core of an insulating material to provide thinner insulation with the same insulating efficiency as thicker prior art insulations (col. 2, lines 21-25). The powder has a surface area of at least $150 \text{ m}^2/\text{g}$ (col. 3, line 9), a compressed density

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in the range from about 10 to 20 pounds per cubic foot (col. 3, lines 37-40), and a bulk density of 3 to 4 pounds per cubic foot (col. 5, lines 52-53). As seen by the ranges of the compressed and bulk densities the compressed density is approximately 1 to 10 times the bulk density of the powder.

It would have been obvious to one of ordinary skill in the art at the time of the invention to use the powder of Barito as the powder of Bell because it would allow the overall structure to be thinner while still providing the insulating efficiency. One of ordinary skill in the art would be motivated to have a thinner laminate so as to make the products, which use insulation, lighter and less bulky for consumer use.

It has been held that where claimed and prior art products are identical or substantially identical in structure or composition, or are produced by identical or substantially identical processes, a *prima facie* case of either anticipation or obviousness has been established and the burden of proof is shifted to applicant to show that prior art products do not necessarily or inherently possess characteristics of claimed products where the rejection is based on inherency under 35 USC 102 or on *prima facie* obviousness under 35 USC 103, jointly or alternatively. Therefore, the *prima facie* case can be rebutted by *evidence* showing that the prior art products do not necessarily possess the characteristics of the claimed product. *In re Best*, 562 F.2d 1252, 1255, 195 USPQ 430, 433 (CCPA 1977). "When the PTO shows a sound basis for believing that the products of the applicant and the prior art are the same, the applicant has the burden of showing that they are not." *In re Spada*, 911 F.2d 705, 709, 15 USPQ2d 1655, 1658 (Fed. Cir. 1990).

In the instant case, Barito does not specifically disclose a thermal conductivity coefficient k value of the thermal insulation system is approximately 0.09 mW/m-K at below about 1×10^{-4} torr and approximately 2.4 mW/m-K at approximately 1 torr, for insulation having an approximately one inch thickness and boundary conditions of 77K and 290K.

Therefore, in addition to the above disclosed limitations, the presently claimed thermal conductivity coefficient k would have necessarily been present because of the use of similar materials (i.e. silica), and there is no evidence currently of record showing that the disclosed prior art products do not necessarily possess the characteristics of the claimed product.

The method of forming the product is not germane to the issue of patentability of the product itself. Further, when the prior art discloses a product which reasonably appears to be either identical with or only slightly different than a product claim in a product-by-process claim, the burden is on the Applicant to present evidence from which the Examiner could reasonably conclude that the claimed product differs in kind from those of the prior art. *In re Brown*, 459 F.2d 531, 173 USPQ 685 (CCPA 1972); *In re Fessman*, 489 F.2d 742, 180 USPQ 324 (CCPA 1974). This burden is NOT discharged solely because the product was derived from a process not known to the prior art. *In re Fessman*, 489 F.2d 742, 180 USPQ 324 (CCPA 1974).

Furthermore, the determination of patentability for a product-by-process claim is based on the product itself and not on the method of production. If the product in the product-by-process claim is the same or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process. *In re Thorpe*, 227 USPQ 946, 966 (Fed. Cir. 1985) and MPEP §2113. In this case, the limitation the powder is electrostatically

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attracted to the first surface of the reflection layer in claim 4 is a method of production and therefore does not determine the patentability of the product itself.

4. Claims 12, 14-16 and 37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bell (5,271,980) in view of Barito et al. (4,636,415) as applied to claims 1-4, 8-11 and 36 above, and further in view of Casey (4,878,258).

The combination of Bell and Barito disclose all the limitations of the instant claimed invention except a plurality of similarly constructed flexible insulating layers.

Casey discloses a plurality of similarly constructed flexible insulating layers adapted to be detachably connected to one another to form blankets, quilts, window coverings, tents, seat cushions, and the like. Another object of Casey is to provide module insulating layers adapted to detachably connected to one another to form coverings of various shapes, designs and configurations. See the summary of the invention.

It would have been obvious to one of ordinary skill in the art at the time of the invention to use a plurality of Bell's insulating panels modally as discloses by Casey because it would allow the insulating panel of Bell to form coverings of various shapes, designs and configurations depending on the intended item to be insulated.

5. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bell (5,271,980) in view of Barito et al. (4,636,415) and Casey (4,878,258) as applied to claims 1-4, 8-12, 14-16, 36 and 37 above, and further in view of Karpinski (4,304,824).

The combination of Bell, Barito and Casey disclose all the limitations of the instant claimed invention except the insulating layer further comprising at least one intermediate strip.

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Karpinski discloses a flexible modular insulation comprising a first flexible laminate film, pellets, and a second flexible laminate (figure 1). In order to provide for the manufacture of large sections of insulation and to prevent the destruction of the insulative qualities of an entire panel due to accidental tears of the laminate flexible film, an alternative embodiment shown in figure 3 is preferable. The pellet layer is discontinuous by the introduction of interposed intermediate strips (col. 2, line 64 to col. 3, line 24).

It would have been obvious to one of ordinary skill to add intermediate strips to Bell's insulating panels as taught by Karpinski because when manufacturing larger panels it would help prevent accidental tears.

Conclusion

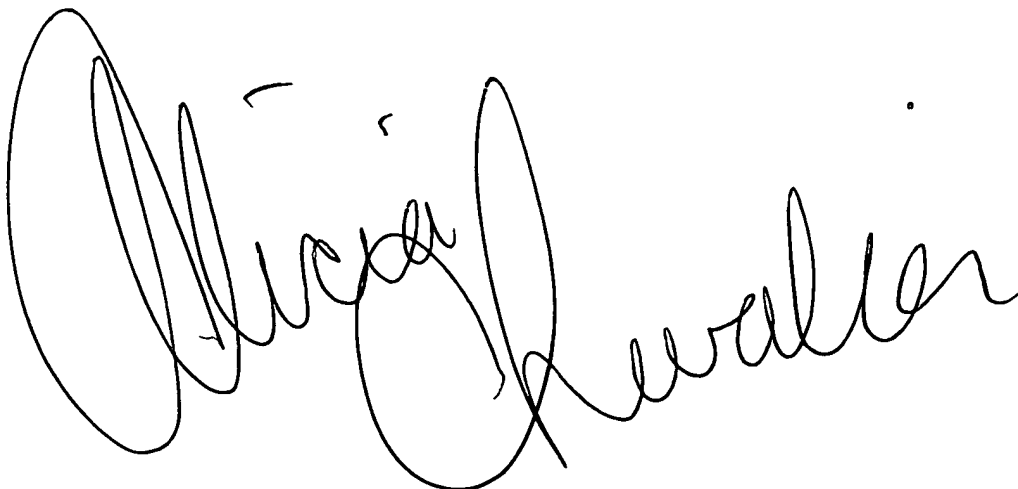
6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alicia Chevalier whose telephone number is (703) 305-1139. The Examiner can normally be reached on Monday through Thursday from 8:00 a.m. to 5:00 p.m. The Examiner can also be reached on alternate Fridays

If attempts to reach the Examiner are unsuccessful, the Examiner's supervisor, Harold Pyon can be reached by dialing (703) 308-4251. The fax phone number for the organization official non-final papers is (703) 872-9310. The fax number for after final papers is (703) 872-9311.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose phone number is (703) 308-0661.

ac

6/25/03

A handwritten signature in black ink, appearing to read 'Alicia Chevalier', with a large, stylized initial 'A'.